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Notice of Allowability	Application No.	Applicant(s)	
	10/676,198	TENCA ET AL.	
	Examiner	Art Unit	
	Uyen-Chau N. Le	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 07 July 2005.
2. ☒ The allowed claim(s) is/are 5 and 9-12.
3. ☒ The drawings filed on 01 October 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

Prelim. Amdt/Amendment

1. Receipt is acknowledged of the Amendment filed 07 July 2005.
2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Chirsta Hildebrand on 21 July 2005 in order to place the instant application in the proper form for an allowance (i.e., to have proper support) by substituting "wherein the mask support and signal source" with -- wherein the beam mask is integrated with a mask support, wherein the mask support and the signal source -- in claim 9, and substituting "a connector plane" with -- the connector plane -- in claim 10.

The application has been amended as follows:

IN THE CLAIMS:

Re claim 9, line 7: Substitutes "wherein the mask support and signal source" with -- wherein the beam mask is integrated with a mask support, wherein the mask support and the signal source --.

Re claim 10, line 2: Substitutes "a connector plane" with -- the connector plane --.

Allowable Subject Matter

3. Claims 5 and 9-12 are allowed.
4. The following is an examiner's statement of reasons for allowance:

Nemoto Kazuhiko (JP 11-296,894) discloses an optical device comprising a transparent substrate 35, which serves as a connecting plane, is formed in a region of the beam entrance with a form-fit between a printed circuit board 40 and prism 30, wherein the printed circuit board 40 is provided with the connector plane 35 and that the prismatic body 30 together with the signal source (i.e., photodiode 20) and a beam receiver PD42 are disposed on the connector plane 35 (English translation: fig. 1; paragraphs [0030] through [0035]). Nemoto Kazuhiko is silent with respect to a beam mask integrated with a mask support, wherein the mask support and signal source are integrated in the prismatic body.

Ishizuka et al discloses an encoder arrangement, comprising a motor with a motor shaft 50 on which a timing disk 6 is secured, a signal source 1 for generating an optical signal, as well as a beam mask 23 for shaping the optical signal wherein a mask support is integrated in the beam mask (fig. 11), a prismatic body 16 is introduced into the beam path for beam deflection and beam shaping (figs. 2, 10 & 11; col. 3, line 40 through col. 4, line 34). Ishizuka et al is silent with respect to the beam mask is provided with code bars having pit and land structures having a diffraction and interference structure.

Cai et al teaches a scaling grating 1 mask is provided with code bars having pit and land structures having a diffraction and interference structure (figs. 3-5; col. 4, lines

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1-49), but is silent with respect to regions between the code bars are made transparent and the pit and land structures include a thickness difference D , which satisfies the following function: $D = L / 2 (n-1)$ with $n = 1.5$ and L = wavelength of the optical signal.

The prior art of records to Nemoto Kazuhiko, Ishizuka et al, Cai et al, Durham III and all other cited references, taken alone or in combination, fails to teach or fairly suggest the specific structure or the method of an encoder arrangement, among other things, comprising a beam mask that is made of a polycarbonate, wherein regions between the code bars are made transparent and the pit and land structures include a thickness difference D , which satisfies the following function: $D = L / 2 (n-1)$ with $n = 1.5$ and L = wavelength of the optical signal, and wherein the mask support and signal source are integrated in the prismatic body as set forth in the claims combination.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The patents to Frosch et al (US 3796476 A) and Nemoto (2000011422 A) are cited as of interest and illustrate a similar structure to an encoder arrangement.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uyen-Chau N. Le whose telephone number is 571-272-2397. The examiner can normally be reached on Mon-Fri. 5:30AM-2:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 571-272-2398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Uyen-Chau N. Le
Examiner
Art Unit 2876

July 21, 2005